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POTENTIAL EFFECTS ON CLINICAL MANAGEMENT OF TREATMENT ALGORITHMS BASED ON APOPROTEIN-B/A AND TOTAL/HIGH-DENSITY LIPOPROTEIN CHOLESTEROL RATIOS

ACC Poster Contributions
Ernest N. Morial Convention Center, Hall F
Monday, April 04, 2011, 3:30 p.m.-4:45 p.m.

Session Title: Unique Trends in Hyperlipidemia
Abstract Category: 15. Pharmacology/Hormones/Lipids—Clinical
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Background: The apoprotein-B/A ratio (apoB/A-R) and total/high density lipoprotein-cholesterol ratio (TC/HDL-R) commonly outperform the traditional lipoproteins promoted by Adult Treatment Plan (ATP)-3 guidelines in predicting cardiovascular (CV) risk.

Objective: To evaluate the potential effects of employing apoB/A-R and TC/HDL-R treatment algorithms on clinical management compared to targeting non-HDL-C goals per ATP-3 recommendations.

Methods: We performed a chart review of all new patient visits to the University of Michigan Lipid Management Clinic from January 2004 to June 2010. ATP-3 guidelines including Framingham Risk Scores (FRS) were used to determine if patients were at goal for non-HDL-C. Next, we evaluated the extent to which management may differ if we followed algorithms based upon credible apoB/A-R or TC/HDL-R targets.

Results: We identified a total of 692 patients (57% male; mean age: 52 ± 14 years). Mean non-HDL-C, apoB/A-R and TC/HDL-R were 192.2 ± 85.8 mg/dL, 0.92 ± 0.64 and 6.7 ± 8.0, respectively. Though moderately correlated with apoB ($r=0.56$, $p<0.01$), non-HDL-C was less strongly related to the apoB/A-R ($r=0.20$, $p<0.01$) and TC/HDL-R ($r=0.39$, $p<0.01$). Most low risk patients (<2 risk factors; n=260) at non-HDL-C goal (<190 mg/dL) also met targets for apoB/A-R <0.9 [79%] and TC/HDL-R <6.0 [92%]. However, a minority of high risk patients (FRS>20%, CV disease or risk equivalent; n=307) meeting non-HDL-C goal (<130 mg/dL) also achieved targets for apoB/A-R <0.5 [21%] or TC/HDL-C <3.5 [42%]. The percentages of intermediate risk individuals meeting both non-HDL-C and ratio goals varied to a larger degree and depended on the ratio proposed; nonetheless, few such patients achieved an aggressive apoB/A-R<0.6 [36-50%] target.

Conclusions: Most high and many intermediate risk patients at non-HDL-C goals would require more aggressive treatment to reach proposed credible apoB/A-R or TC/HDL-R targets. We speculate that ATP-3 guidelines might fail to optimize CV risk reduction in these patients.